

BU9-97-226

- 8 -

REMARKS

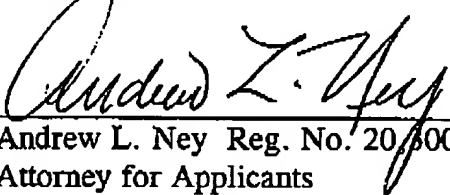
Applicants thank the Examiner for the telephone interview conducted on December 12, 2002. In this telephone interview, the Examiner indicated that, by inserting a portion of the first paragraph of claim 3 (same as in claims 7, 11, and 15) into claims 1, 2, 5, 6, 9, 10, 13, and 14, canceling claims 3, 7, 11, and 15, and changing the dependency of claims 4, 8, 12, and 16, the pending claims would distinguish Applicants' invention from the prior art Schwutke et al. reference and this application would be in condition for allowance. The changes suggested by the Examiner have been made by this Amendment, along with changes to claims 4, 8, 12, and 16 of an editorial nature.

In addition, Applicants have added claims 17, 18, 19, and 20, dependent on claims 1, 5, 9, and 13, respectively. Claims 17 through 20, dependent on claims that are patentable over Schwutke et al., also should be allowable.

This application is in condition for allowance which action is respectfully requested.

Respectfully submitted,

RatnerPrestia

  
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ALN/imc  
Attachment: Version with Markings to Show Changes Made  
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The Assistant Commissioner for Patents is hereby authorized to charge payment to Deposit Account No. 09-0456 (IBM Corporation) of any fees associated with this communication.

I hereby certify that this correspondence is being facsimile transmitted to the United States Patent and Trademark Office (703) 308-6606 on the date shown below.

December 23, 2002  
Miss M. Cooper

BU9-97-226

- 9 -

VERSION WITH MARKINGS TO SHOW CHANGES MADEIN THE CLAIMS:

Claims 3, 7, 11, and 15 have been cancelled and claims 17 through 20 have been added.

- 1                   1.     (Amended) A method for visualizing data arrays provided  
2     in the form of a plurality of data values, said method comprising the steps of:
- 3                   extracting a plurality of data values associated with a mathematical  
4     matrix to generate ~~generating~~ a grid based on ~~a~~ the plurality of data values;
- 5                   associating each data value of the plurality of data values with one  
6     of a plurality of geometric shapes according to a predetermined set of rules;
- 7                   placing said one of the plurality of geometric shapes associated  
8     with each data value of the plurality of data values on the grid; and
- 9                   displaying visual and geometric information placed on the grid to a  
10    user in graphical form.
- 1                   2.     (Amended) A method for visualizing data arrays provided  
2     in the form of a plurality of data values, said method comprising the steps of:
- 3                   extracting a plurality of data values associated with a mathematical  
4     matrix to generate ~~generating~~ a grid based on ~~a~~ the plurality of data values;
- 5                   identifying one of a plurality of numerical attributes associated  
6     with each data value of the plurality of data values;
- 7                   associating each numerical attribute with one of a plurality of  
8     visual attributes;
- 9                   associating each data value of the plurality of data values with one  
10    of a plurality of geometric shapes each having one of the plurality of visual

BU9-97-226

- 10 -

11 attributes, which is consistent with the data value, according to a predetermined  
12 set of rules;

13 placing said one of the plurality of geometric shapes associated  
14 with each data value of the plurality of data values on the grid; and

15 displaying visual and geometric information placed on the grid to a  
16 user in graphical form.

1 4. (Amended) The method according to claim 31, wherein the  
2 ~~graphic representation data arrays~~ of the plurality of data values ~~is~~ are the  
3 ~~graphic representation data arrays of a conductance matrix~~ matrices.

1 5. (Amended) An article of manufacture comprising a  
2 computer usable medium having computer readable program code means  
3 embodied therein for visualizing data arrays provided in the form of a plurality  
4 of data values, the computer readable program code means in said article of  
5 manufacture comprising computer readable program code means for causing a  
6 computer to effect:

7 extracting a plurality of data values associated with a mathematical  
8 matrix to generate ~~generating~~ a grid based on the plurality of data values;

9 associating each data value of the plurality of data values with one  
10 of a plurality of geometric shapes according to a predetermined set of rules;

11 placing said one of the plurality of geometric shapes associated  
12 with each data value of the plurality of data values on the grid; and

13 displaying visual and geometric information placed on the grid to a  
14 user in graphical form.

1 6. (Amended) An article of manufacture comprising a  
2 computer usable medium having computer readable program code means  
3 embodied therein for visualizing data arrays provided in the form of a plurality  
4 of data values, the computer readable program code means in said article of

BU9-97-226

- 11 -

5 manufacture comprising computer readable program code means for causing a  
6 computer to effect:

7 extracting a plurality of data values associated with a mathematical  
8 matrix to generate ~~generating~~ a grid based on the plurality of data values;

9 identifying one of a plurality of numerical attributes associated  
10 with each data value of the plurality of data values;

11 associating each numerical attribute with one of a plurality of  
12 visual attributes;

13 associating each data value of the plurality of data values with one  
14 of a plurality of geometric shapes each having one of the plurality of visual  
15 attributes, which is consistent with the data value, according to a predetermined  
16 set of rules;

17 placing said one of the plurality of geometric shapes associated  
18 with each data value of the plurality of data values on the grid; and

19 displaying visual and geometric information placed on the grid to a  
20 user in graphical form.

1 8. (Amended) The article of manufacture according to claim  
2 75, wherein the ~~graphic representation data arrays~~ of the plurality of data values  
3 ~~isare~~ the graphic representation data arrays of a conductance ~~matrix~~ matrices.

1 9. (Amended) A computer program product comprising a  
2 computer usable medium having computer readable program code means  
3 embodied therein for causing visualization of data arrays provided in the form of  
4 a plurality of data values, the computer readable program code means in said  
5 computer program product comprising computer readable program code means  
6 for causing a computer to effect:

7 extracting a plurality of data values associated with a mathematical  
8 matrix to generate ~~generating~~ a grid based on the plurality of data values;

BU9-97-226

- 12 -

9 associating each data value of the plurality of data values with one  
10 of a plurality of geometric shapes according to a predetermined set of rules;

11 placing said one of the plurality of geometric shapes associated  
12 with each data value of the plurality of data values on the grid; and

13 displaying visual and geometric information placed on the grid to a  
14 user in graphical form.

1 10. (Amended) A computer program product comprising a  
2 computer usable medium having computer readable program code means  
3 embodied therein for causing visualization of data arrays provided in the form of,  
4 a plurality of data values, the computer readable program code means in said  
5 computer program product comprising computer readable program code means  
6 for causing a computer to effect:

7 extracting a plurality of data values associated with a mathematical  
8 matrix to generate ~~generating~~ a grid based on the plurality of data values;

9 identifying one of a plurality of numerical attributes associated  
10 with each data value of the plurality of data values;

11 associating each numerical attribute with one of a plurality of  
12 visual attributes;

13 associating each data value of the plurality of data values with one  
14 of a plurality of geometric shapes each having one of the plurality of visual  
15 attributes, which is consistent with the data value, according to a predetermined  
16 set of rules;

17 placing said one of the plurality of geometric shapes associated  
18 with each data value of the plurality of data values on the grid; and

19 displaying visual and geometric information placed on the grid to a  
20 user in graphical form.

BU9-97-226

- 13 -

1                   12. (Amended) The product according to claim ~~119~~, wherein  
2 ~~the graphic representation~~data arrays of the plurality of data values ~~is~~are the  
3 ~~graphic representation data arrays of a conductance matrix~~matrices.

1                   13. (Amended) A storage device readable by machine, tangibly  
2 embodying a program of instructions executable by the machine to perform a  
3 method for visualizing data arrays provided in the form of a plurality of data  
4 values, said method comprising the steps of:

5                   extracting a plurality of data values associated with a mathematical  
6 matrix to generate ~~generating a grid~~ based on the plurality of data values;

7                   associating each data value of the plurality of data values with one  
8 of a plurality of geometric shapes according to a predetermined set of rules;

9                   placing said one of the plurality of geometric shapes associated  
10 with each data value of the plurality of data values on the grid; and

11                  displaying visual and geometric information placed on the grid to a  
12 user in graphical form.

1                   14. (Amended) A storage device readable by a machine,  
2 tangibly embodying a program of instructions executable by the machine to  
3 perform a method for visualizing data arrays provided in the form of a plurality  
4 of data values, said method comprising the steps of:

5                   extracting a plurality of data values associated with a mathematical  
6 matrix to generate ~~generating a grid~~ based on the plurality of data values;

7                   identifying one of a plurality of numerical attributes associated  
8 with each data value of the plurality of data values;

9                   associating each numerical attribute with one of a plurality of  
10 visual attributes;

BU9-97-226

- 14 -

11 associating each data value of the plurality of data values with one  
12 of a plurality of geometric shapes each having one of the plurality of visual  
13 attributes, which is consistent with the data value, according to a predetermined  
14 set of rules;

15 placing said one of the plurality of geometric shapes associated  
16 with each data value of the plurality of data values on the grid; and

17 displaying visual and geometric information placed on the grid to a  
18 user in graphical form.

16. (Amended) The device according to claim ~~15~~13, wherein  
20 the ~~graphic representation data array~~ of the plurality of data values ~~is~~are the  
~~graphic representation data arrays of a conductance matrix~~matrices.